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NASA Weekly Update

Week of March 12-19, 2007

March 19: Inspection and Repairs Continue: Space Shuttle Atlantis, surrounded by service platforms in highbay 1 inside the Vehicle Assembly Building, continues to undergo inspection for hail damage. Special scaffolding and access platforms have been erected to allow for the mapping and inspection of the external fuel tank. Repair methods and criteria are also being developed. Shuttle Program managers plan to meet this week to assess the damage and repair status to the external tank. Mission STS-117 to the International Space Station will be scheduled sometime after a Russian Soyuz spacecraft returns from the station. For more information, visit: www.nasa.gov/shuttle.

March 13: Cassini Spacecraft Images Seas on Saturn's Moon Titan: Instruments on NASA's Cassini spacecraft have found evidence for seas, likely filled

A comparison view of a lake on Titan and Lake Superior.

with liquid methane or ethane, in the high northern latitudes of Saturn's moon Titan. One such feature is larger than any of the Great Lakes of North America and is about the same size as several seas on Earth. Cassini's radar instrument imaged several very dark features near Titan's north pole. Much larger than similar features seen before on Titan, the largest dark feature measures at least 39,000 square miles. Since the radar has caught only a portion of each of these features, only their minimum size is known. Titan is the second largest moon in the solar system and is about 50 percent larger than Earth's moon. For images and more information visit: http://www.nasa.gov/cassini.

March 15: Ice on Mars' South Pole is Deep and Wide: New measurements of Mars' south polar region indicate extensive frozen water. The polar region contains enough frozen water to cover the whole planet in a liquid layer approximately 36 feet deep. A joint NASA-Italian Space Agency instrument on the European Space Agency's Mars Express spacecraft provided these data. This new estimate comes from mapping the thickness of the ice. The Mars Express orbiter's radar instrument has made more than 300 virtual slices through layered deposits covering the pole to map the ice. The radar sees through icy layers to the lower boundary, which is as deep as 2.3 miles below the surface.

March 15: NASA Recognized for Water Purification and Clean Up Technologies: On April 12, two technologies developed at NASA for America's space program will be inducted into the Space Foundation's Space Technology Hall of Fame. NASA's Johnson Space Center, Houston, receives the honor for its development of the Microbial Check Valve used in water purification. NASA's Kennedy Space Center, Cape Canaveral, Fla., is recognized for the development of Emulsified Zero-Valent Iron technology used to clean contaminated ground water. The transfer of NASA technology to the private sector is managed through NASA's Innovative Partnerships Program. To learn more about the program, visit: http://www.ipp.nasa.gov.

March 15: NASA Space Station Module in Perfect "Harmony" with New Name: Ever since it was designed for the International Space Station, it has been known as the Node 2 module. Now thanks to students from across the United States, Node 2 also will be known as "Harmony." At an event Thursday at NASA's Kennedy Space Center, Fla., NASA

announced the new name. The name was chosen from an academic competition involving more than 2,200 kindergarten through high school students from 32 states. Video of the name announcement event will air on NASA Television's Video File. For NASA TV downlink, streaming video and scheduling information, visit: http://www.nasa.gov/ntv. For more information about the Node 2 Challenge, visit the NASA Exploring Space Challenges Web site: http://esc.nasa.gov/. For more information on the station and the Harmony module, visit: http://www.nasa.gov/station.

March 15: NASA Extends Contract to Support Science and Mission Operations: NASA has decided to exercise a five-year option with Teledyne Brown Engineering, Inc., Huntsville, Ala., for continued systems development and operations support for the Science and Mission Systems Office at the agency's Marshall Space Flight Center, Huntsville. The maximum potential value of the cost plus award fee contract, including the option and incentive fees, is $568 million.

March 15: NASA, AOL, Mad Science Host the Space Pennant Design Challenge: For some scientists and engineers, designing something that flies in space might be the pinnacle of a career. NASA now is offering that opportunity to grade school students. NASA, AOL's Kids Service KOL and Mad Science are teaming up for the NASA Space Pennant Design Challenge, which begins Thursday, March 15. Students will design pennants based on either the upcoming STS-118 shuttle flight or America's long-term exploration strategy, known as the Vision for Space Exploration. The winning design will fly on the shuttle Endeavour during the STS-118 mission, targeted for launch in summer 2007. For more information about the challenge, visit: http://www.kolexpeditions.com. For details on the STS-118 mission and its crew, visit: http://www.nasa.gov/sts118.

March 14: NASA Science Update to Discuss New Phenomena on the Sun: A NASA Science Update at 1 p.m. EDT Wednesday, March 21 will be held to discuss never-before-seen observations from an international mission studying the sun. The briefing will take place in the NASA Headquarters auditorium, 300 E Street, S.W., Washington. It will air live on NASA Television and www.nasa.gov. The Hinode spacecraft, Japanese for "sunrise," launched in September 2006 to study the sun's magnetic field and how its explosive energy propagates through the different layers of the solar atmosphere. The spacecraft was known previously as Solar B. For more information about Hinode, visit: http://www.nasa.gov/solar-b. For NASA TV streaming video, downlink and schedule information, visit: http://www.nasa.gov/ntv.

Weekly Status Reports

International Space Station (ISS)

The Expedition 14 crew was busy this week moving trash into the ISS Progress 23 cargo ship, installing a new window on the space station and preparing for upcoming missions to the station. The new window was installed on Wednesday on the port side hatch of the Unity node. It is fitted with a berthing camera system that includes target markings on the outside of the hatch. This will help robotic operators align and dock the station's new elements.

The window's installation was part of the crew's work to ready the station's Pressurized Mating Adapter-3 (PMA-3) for its relocation later this year to Unity's Earth-facing port. This was the second hatch window installed by an Expedition crew. A similar window was installed by Expedition 6 crew members on Unity's starboard hatch. Space Station Commander Michael Lopez-Alegria and Flight Engineer Suni Williams also temporarily relocated a "wall" of collapsible water bags to allow them access to PMA-3 and provide access to some of the station's computer cables, allowing the two to install new, upgraded cabling. For more about the crew's activities and station sighting opportunities, visit: http://www.nasa.gov/station.

Upcoming Events

- **April 7:** Launch of the Expedition 15 crew. The crew includes Commander Fyodor Yurchikhin and Flight Engineer Oleg Kotov. Sunita Williams will finish her remaining time of her six-month tour of duty on the station as a member of Expedition 15 crew.
- **April 18:** Landing of the Expedition 14 crew at Kazakhstan's Baikonur Cosmodrome. The crew includes Commander Michael Lopez-Alegria, Flight Engineer Mikhail Tyurin, and Flight Engineer Sunita Williams.
- **Targeted for Late April:** Launch of Space Shuttle Atlantis from Kennedy Space Center for mission STS-117 to the International Space Station.

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